

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A printed circuit board for use in an electronic device package comprising:

a substrate layer comprising impregnated glass fibers;

a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to said substrate layer; and

an electrically conductive circuitry comprising a conductive material ~~formed on~~ encapsulated by said non-conductive layer such that said non-conductive layer lies between said substrate layer and said conductive material to prevent shorts therebetween caused by migration of said conductive material along said glass fibers.

2. (Original) The printed circuit board as recited in claim 1 further comprising a plated through hole extending through said substrate layer and said non-conductive layer and electrically coupled to said circuitry.

3. (Original) The printed circuit board as recited in claim 1 wherein said dielectric material comprises a photoimageable dielectric material.

4. (Original) The printed circuit board as recited in claim 1 wherein said dielectric material comprises polyimide.

5. (Original) The printed circuit board as recited in claim 1 wherein said dielectric material comprises Kevlar-based paper impregnated with epoxy resin.

6. (Original) The printed circuit board as recited in claim 1 wherein said dielectric material is resin-coated copper foil.

7. (Original) The printed circuit board as recited in claim 1 wherein said substrate layer is prepreg comprising a glass fabric impregnated with epoxy resin.

8. (Previously Presented) The printed circuit board as recited in claim 2, further comprising at least one clearance between said electrically conductive circuitry and said plated through hole filled with said dielectric material.

9. (Canceled)

10. (Previously Presented) The electronic device package as recited in claim 48 further comprising at least one power plane.

11. (Previously Presented) The electronic device package as recited in claim 48 further including a second substrate comprising impregnated glass fibers, a power plane and a second non-conductive layer positioned between said second substrate and said power plane.

12. (Previously Presented) The electronic device package as recited in claim 10 further comprising at least one plated through hole extending through said substrate and said non-conductive layer.

13. (Previously Presented) The electronic device package as recited in claim 12 wherein said power plane is spaced from said through hole and said electronic device package further includes a non-conductive layer comprising a dielectric material free of continuous glass fibers in the space between said power plane and said through hole to prevent a short there between.

14. (Previously Presented) The electronic device package as recited in claim 12 wherein said non-conductive layer is positioned between said through hole and said electrically conductive circuit.

15. (Previously Presented) The electronic device package as recited in claim 48 further comprising at least one clearance filled with said dielectric material.

16. (Withdrawn) The electronic device package as recited in claim 48 further including an electronic device electrically coupled to said electrically conductive circuit.

17. (Withdrawn) The electronic device package as recited in claim 48 wherein said electrically conductive circuit includes a plurality of solder pads.

18. (Withdrawn) The electronic device package as recited in claim 17 further comprising a solder ball coupled to one of said solder pads.

19. (Previously Presented) The electronic device package as recited in claim 48 wherein said dielectric material comprises a photoimageable dielectric material.

20. (Previously Presented) The electronic device package as recited in claim 48 wherein said dielectric material comprises polyimide.

21. (Previously Presented) The electronic device package as recited in claim 48 wherein said dielectric material comprises Kevlar-based paper impregnated with epoxy resin.

22. (Previously Presented) The electronic device package as recited in claim 48 wherein said dielectric material comprises resin-coated copper foil.

23. (Previously Presented) The electronic package device as recited in claim 48 wherein said substrate layer is prepreg comprising glass fabric impregnated with epoxy resin.

24. (Withdrawn) An electronic device package comprising:
a non-conductive substrate comprising a dielectric material free of continuous glass fibers;
an electronic device coupled to said substrate; and

electrically conductive circuitry comprising a conductive material formed on said substrate wherein said electronic device is electrically coupled to said circuitry.

25. (Withdrawn) The electronic device package as recited in claim 24 further comprising at least one power plane laminated to said substrate such that said dielectric material lies between said circuitry and said plane.

26. (Withdrawn) The electronic device package as recited in claim 24 further comprising at least one plated through hole extending through said substrate.

27. (Withdrawn) The electronic device package as recited in claim 24 wherein said circuitry includes a plurality of solder pads.

28. (Withdrawn) The electronic device package as recited in claim 27 further comprising a solder ball coupled to one of said solder pads.

29. (Withdrawn) The electronic device package as recited in claim 24 further comprising a prepreg comprising a glass fabric laminated to said substrate.

30. (Withdrawn) The electronic device package as recited in claim 24 further comprising at least one clearance filled with said dielectric material.

31. (Withdrawn) An electronic device package comprising:

at least one substrate, said substrate comprising impregnated glass fibers;

at least one plated through hole extending through each said substrate;

at least one conductive power plane;

an electronic device coupled to said substrate; and

a non-conductive layer comprising a dielectric material free of continuous glass fibers positioned between each said plated through hole and each said power plane to prevent a short therebetween caused by migration of said conductive material along said glass fibers.

32. (Withdrawn) The electronic device package as recited in claim 31 further including additional non-conductive layers positioned between said substrates and said power planes.

33. (Withdrawn) The electronic device package as recited in claim 31 further comprising electrically conductive circuitry comprising conductive material formed on the surface of said substrate.

34. (Withdrawn) The electronic device package as recited in claim 32 wherein non-conductive layers are positioned between said circuitry and said power planes.

35. (Withdrawn) The electronic device package as recited in claim 32 further comprising at least one clearance between said electrically conductive power plane and said plated through hole filled with said dielectric material.

36. (Withdrawn) A printed circuit board for use in an electronic device package comprising:

a substrate layer comprising impregnated glass fibers;

a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to said substrate layer; and

an electrically conductive circuitry comprising a conductive material:

(a) formed on said non-conductive layer, and

(b) encapsulated by said non-conductive layer

such that said non-conductive layer lies between said substrate layer and said conductive material to prevent shorts therebetween caused by migration of said conductive material along said glass fibers.

37. (Original) A printed circuit board as recited in claim 1 wherein the thickness of said non-conductive layer is between 0.5 mils and 5 mils.

38. (Previously Presented) An electronic device package as recited in claim 48 wherein the thickness of said non-conductive layer is between 0.5 mils and 5 mils.

39. (Withdrawn) An electronic device package as recited in claim 24 wherein the thickness of said non-conductive substrate is between 0.5 mils and 5 mils.

40. (Withdrawn) An electronic device package as recited in claim 31 wherein the thickness of said non-conductive layer is between 0.5 mils and 5 mils.

41. (Withdrawn) An electronic device package as recited in claim 36 wherein the thickness of said non-conductive layer is between 0.5 mils and 5 mils.

42. (Withdrawn) A method of forming an electronic device package comprising the steps of:

providing a glass fibers substrate;

impregnating said substrate with a resin;

thereafter applying a discrete layer of dielectric material free of glass fibers over said impregnated substrate;

applying a layer of electrically conductive circuitry over said discrete layer of dielectric material; and

coupling an electronic device to said electrically conductive circuitry.

43. (Withdrawn) A method of forming a printed circuit board comprising the steps of:

providing a glass fibers substrate;

impregnating said substrate with a resin;

thereafter applying a discrete layer of dielectric material free of glass fibers over said impregnated substrate; and

applying a layer of electrically conductive circuitry over said discrete layer of dielectric material.

44. (Withdrawn) The method as recited in claim 42 wherein said discrete layer of dielectric material free of glass fibers is applied to a thickness of between 0.5 mils and 5 mils.

45. (Withdrawn) The method as recited in claim 43 wherein said discrete layer of dielectric material free of glass fibers is applied to a thickness of between 0.5 mils and 5 mils.

46. (Withdrawn) An electronic device package comprising:

a glass fibers substrate impregnated with a resin;

a discrete layer of dielectric material free of glass fibers over said impregnated substrate;

a layer of electrically conductive circuitry over said discrete layer of dielectric material;
and

an electronic device package coupled to said electrically conductive circuitry.

47. (Withdrawn) An electronic device package as recited in claim 46 wherein the thickness of said discrete layer of dielectric material free of glass fibers is between 0.5 mils and 5 mils.

48. (Currently Amended) An electronic device package comprising:

a substrate comprising impregnated glass fibers;

an electrically conductive circuit; and

a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to said substrate such that said non-conductive layer encapsulates said electrically conductive circuit and lies between said substrate and said electrically conductive circuit to prevent shorts there between caused by migration of said electrically conductive circuit along said glass fibers.